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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,437	02/05/2002	Thomas B. Bolt	Q02-1032-US1/11198.85	2631

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EXAMINER

WOO, ISAAC M

ART UNIT	PAPER NUMBER
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2166

DATE MAILED: 11/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,437

Applicant(s)

BOLT, THOMAS B.

Examiner

Isaac M. Woo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11, 13-22 and 28-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11, 13-22 and 28-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/08/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 08, 2006 has been entered.

2. Claim 43 is newly added. Claims 1, 12 and 23-27 are canceled. Claims 2-11, 13-22 and 28-43 are pending.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2-11, 13-22 and 28-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Karasudani et al (U.S. Patent No. 6,378,054, hereinafter, "Karasudani").

With respect to claim 2, Karasundani teaches the compression of data is performed using a software data compression algorithm (col. 5, lines 3-26).

With respect to claim 3, Karasundani teaches the software data compression algorithm includes one of the following types of algorithms: a zip; a gnuzip; a bzip; a b2zip; a Lempel Ziv; and a LZS (Lempel Ziv Stac) (col. 5, lines 3-26).

With respect to claim 4, Karasundani teaches successively repeating the receiving and storing of data during the backup window periods and retrieving, compressing and storing compressed data on the backup storage device during successive duty cycles respectively (col. 11, lines 5-29).

With respect to claim 5, Karasundani teaches the backup storage device is an emulated tape drive containing an array of hard drives (col. 8, lines 49-61).

With respect to claim 6, Karasundani teaches the data is downloaded over a network from a primary storage location (col. 1, lines 8-25).

With respect to claim 7, Karasundani teaches the data is downloaded over a fiber-channel connection between the primary storage location and the backup storage device (col. 1, lines 5-65).

With respect to claim 8, Karasundani teaches the data is downloaded over an ethernet connection between the primary storage location and the backup storage device (col. 1, lines 5-65).

With respect to claim 9, Karasundani teaches the primary storage location and the backup storage device are part of a storage array network (col. 1, lines 5-65).

With respect to claim 10, Karasundani teaches the primary storage location and the backup storage device are part of a network attached storage configuration (col. 1, lines 5-65).

With respect to claim 11, Karasundani teaches the backup storage device is directly electrically connected to a server (col. 1, lines 5-65).

With respect to claim 13, Karasundani teaches the controller is further configured to execute a software algorithm to compress the retrieved data (col. 11, lines 5-29).

With respect to claim 14, Karasundani teaches algorithms a zip; a gnuzip; a bzip; a b2zip; a Lempel Ziv; and a LZS (Lempel Ziv Stac) (col. 11, lines 5-29).

With respect to claim 15, Karasundani teaches the software algorithm is stored in a memory associated with the controller (col. 11, lines 5-29).

With respect to claim 16, Karasundani teaches a fiber channel controller coupled between the controller and the input/output port which comprises an optical transceiver (col. 11, lines 5-29).

With respect to claim 17, Karasundani teaches ethernet controller coupled between the controller and the input/output port which comprises an ethernet transceiver (col. 8, lines 49-67 to col. 9, lines 1-67).

With respect to claim 18, Karasundani teaches a network hub and bridge circuit coupled between the backup storage device and the controller (col. 8, lines 49-67 to col. 9, lines 1-67).

With respect to claim 19, Karasundani teaches a primary storage location that allows transmission of uncompressed data from the primary storage location to the backup storage device (col. 11, lines 5-29).

With respect to claim 20, Karasundani teaches network connection is one of the following types of network connections: fiber channel or ethernet (col. 11, lines 5-29).

With respect to claim 21, Karasundani teaches the software algorithm is stored in a memory associated with the controller (col. 11, lines 5-29).

With respect to claim 22, Karasundani teaches plurality of clients and servers coupled to the primary storage location through a client network (col. 8, lines 49-67 to col. 9, lines 1-67).

With respect to claim 28, Karasundani teaches a controller that transmits data between the primary storage location and the backup storage device according to a duty cycle having a predetermined backup window period (co. 11, lines 5-29, col. 5, lines 3-26) when uncompressed data from the primary storage location (i.e., backup from source to destination fig. 19) is copied to the backup storage device (col. 11, lines 5-29, col. 3, lines 25-33), and an idle period when uncompressed data from the primary storage location is not being copied in uncompressed form to the backup storage device (col. 11, lines 5-29, col. 3, lines 25-33); wherein during the idle period the controller retrieves the uncompressed data stored on the backup storage device, compresses the retrieved data (i.e., archive file is backed up and backup file is compressed at S2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26), and then re-stores the compressed data on the backup storage device (S2, fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 29, Karasundani teaches compression of data is performed using a software data compression algorithm (col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 30, Karasundani teaches backup storage device is an emulated tape drive containing an array of hard drives (col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 31, Karasundani teaches a controller that copies, uncompressed data from the primary storage location to the backup storage device during a predetermined backup period, (i.e., backup from source to destination fig. 19) is copied to the backup storage device (col. 11, lines 5-29, col. 3, lines 25-33) retrieves the uncompressed data from the backup storage device (archive file s1 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26), compresses the retrieved data (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26), and then re-stores the compressed data on the backup storage device during an idle period that begins following a predetermined time period of inactivity through the input/output port (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 32, Karasundani teaches copying uncompressed data during a predetermined backup window period from the primary storage location to the backup storage device (i.e., backup from source to destination fig. 19, col. 11, lines 5-

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29, col. 3, lines 25-33); compressing the data with a controller during an idle period defined by when uncompressed data is not being copied from the primary storage location to the backup storage device; (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26), re-storing the compressed data onto the backup storage device during the idle period (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 33, Karasundani teaches beginning the idle period following a predetermined time period of inactivity through the input/output port (col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 34, Karasundani teaches compressing the data when activity is detected through the input/output port the input/output port (col. 11, lines 5-29, col. 3, lines 25-33).

With respect to claim 35, Karasundani teaches interrupting the step of re-storing the compressed data when activity is detected through the input/output port (col. 11, lines 5-29, col. 3, lines 25-33).

With respect to claim 36, Karasundani teaches copying uncompressed data during a predetermined backup window period from the primary storage location to the backup storage device (i.e., backup from source to destination fig. 19, col. 11, lines 5-

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29, col. 3, lines 25-33); compressing the data with a controller during an idle period defined by when uncompressed data is not being copied from the primary storage location to the backup storage device; (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26), re-storing the compressed data onto the backup storage device during the idle period (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 37, Karasundani teaches compression of data is performed using a software data compression algorithm (col. 11, lines 30-41).

With respect to claim 38 Karasundani teaches successively repeating the receiving and storing of data during the backup window periods and retrieving, compressing and storing compressed data on the backup storage device during successive duty cycles respectively (col. 11, lines 5-29, col. 3, lines 25-33).

With respect to claim 39 Karasundani teaches the backup storage device is an emulated tape drive containing an array of hard drives (col. 11, lines 5-29, col. 3, lines 25-33).

With respect to claim 40, Karasundani teaches the data is downloaded over a network from a primary storage location (col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

With respect to claim 41, Karasundani teaches interrupting the step of compressing the data when activity is detected through the input/output port (col. 11, lines 5-29, col. 3, lines 25-33).

With respect to claim 42, Karasundani teaches re-storing the compressed data when activity is detected through input/output port (col. 11, lines 5-29, col. 3, lines 25-33).

With respect to claim 43, Karasundani teaches a controller that transmits data between the primary storage location and the backup storage device (i.e., backup from source to destination fig. 19, col. 11, lines 5-29, col. 3, lines 25-33) according to a duty cycle having a backup window period and an idle period (col. 11, lines 5-29, col. 3, lines 25-33), the controller transmitting uncompressed data from the primary storage location for copying to the backup storage device during the backup window period (i.e., archive file in fig. 5), the controller determining initiation of the idle period based on a predetermined time period of inactivity of data transmission through the input/output port and terminating the idle period once data transmission through the input/output port occurs; (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26) wherein during the idle period, the controller initiates (i) compression of uncompressed data stored on the backup storage device, and (ii) restorage of compressed data onto the

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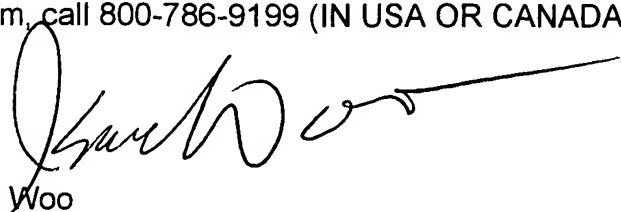
backup storage device (s2 in fig. 5, col. 11, lines 30-41, col. 12, lines 31-45, col. 5, lines 3-26).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac M. Woo whose telephone number is (571) 272-4043. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Isaac Woo
November 2, 2006